

Algebra Chapter 10 Review

1. $(4x^2 + 9x - 5) + (6x^3 + 2x^2 + 11x - 7)$

$$6x^3 + 6x^2 + 20x - 12$$

2. $(5x^2 + 8x - 9) - (4x^2 + 10x - 8)$

$$x^2 - 2x - 1$$

3. $3x^2(6x - x^2 + 9)$

$$18x^3 - 3x^4 + 27x^2$$

4. $(x + 2)(2x^2 - 2x + 1)$

$$2x^3 + 2x^2 - 3x + 2$$

5. $(x - 7)(x + 2)$

$$x^2 - 5x - 14$$

6. $(x - 12)(x - 4)$

$$x^2 - 16x + 48$$

7. $(2x + 3)^2$

$$(2x + 3)(2x + 3)$$

$$4x^2 + 12x + 9$$

8. Factor: $x^2 + 9x - 36$

$$(x + 12)(x - 3)$$

9. Factor: $2x^2 - 5x + 12$

cannot factor

10. Factor: $7x^2 - 16x + 4$

$$(7x - 2)(x - 2)$$

11. Factor: $25x^2 - 70x + 49$

$$(5x - 7)(5x - 7) \text{ or } (5x - 7)^2$$

12. Factor: $16x^2 - 25$

$$(4x - 5)(4x + 5)$$

13. Factor: $x^2 - 12x + 36$

$$(x - 6)(x - 6) \text{ or } (x - 6)^2$$

14. Factor: $2x^2 - 10x - 48$ (GCF)

$$2(x^2 - 5x - 24)$$

$$2(x - 8)(x + 3)$$

15. Factor: $3x^2 - 30x + 27$ (GCF)

$$3(x^2 - 10x + 9)$$

16. Factor: $9x^2 - 16$

$$(3x - 4)(3x + 4)$$

17. Find the solutions: $(x - 2)(x + 9) = 0$

$$\{-2, -9\} \quad \begin{array}{l} x + 2 = 0 \text{ or } x + 9 = 0 \\ x = -2 \quad \quad x = -9 \end{array}$$

18. Find the solutions: $(4x - 1)(x + 5)(3x + 8) = 0$

$$\{\frac{1}{4}, -5, -\frac{8}{3}\} \quad \begin{array}{l} 4x - 1 = 0 \text{ or } x + 5 = 0 \text{ or } 3x + 8 = 0 \\ 4x = 1 \quad x = -5 \quad \quad x = -\frac{8}{3} \\ x = \frac{1}{4} \quad \quad x = -5 \end{array}$$

19. Use factoring to solve: $x^2 + 3x - 4 = 0$

$$\{-4, 1\} \quad \begin{array}{l} (x + 4)(x - 1) = 0 \\ x + 4 = 0 \text{ or } x - 1 = 0 \\ x = -4 \quad \quad x = 1 \end{array}$$

20. Use factoring to solve: $x^2 + 3x - 18 = 0$

$$\{-6, 3\} \quad \begin{array}{l} (x + 6)(x - 3) = 0 \\ x + 6 = 0 \text{ or } x - 3 = 0 \\ x = -6 \quad \quad x = 3 \end{array}$$

21. $\frac{28x^5 + 20x^3 - 8x}{2x}$

$$14x^4 + 10x^2 - 4$$

22. $\frac{45x^8 - 27x^6 + 18x^4}{9x^2}$

$$5x^6 - 3x^4 + 2x^2$$

23. Find the area:

x^2	x	x	x	x
x	1	1	1	1
x	1	1	1	1
x	1	1	1	1
x	1	1	1	1

$$x^2 + 8x + 16$$

24. The area of a rectangle is $x^2 - x - 12$.

Use factoring to find the

dimensions.

The dimensions are $(x - 4)$ and $(x + 3)$.